

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Historical Circulars of the Nebraska Agricultural
Experiment Station

Extension

10-1942

Use Milk - An Essential Food

Follow this and additional works at: <https://digitalcommons.unl.edu/hcnaes>



Part of the [Agriculture Commons](#), [Dairy Science Commons](#), and the [Other Food Science Commons](#)

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Circulars of the Nebraska Agricultural Experiment Station by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Use Milk--an Essential Food

Circular 71



***The Agricultural Experiment Station of the University of Nebraska
College of Agriculture, Lincoln, Nebraska
W. W. Burr, Director***

CONTENTS

	PAGE
The Handling of Milk in the Home	3
Uses of Milk	5
Cream	7
Butter	7
Cheese Making	9
Soft Cheeses	10
Semi-Soft Cheeses	12
Hard Cheeses	13
Conclusion	14
A Useful List of Circulars	15

Use Milk, An Essential Food

MILK, nature's first food for young animals, is a vital food in the home. The farm housewife is particularly fortunate in having available in milk an extremely economical as well as a vital source of food for her family. Taking average farm milk as a basis, where else could she find as many fine food nutrients at the same cost?

If a hundred pounds of whole milk delivered to market is worth \$2.00 and it costs \$.25 to transport it from the farm to the city, the value on the farm is but \$1.75. This amount of milk would contain about 13 pounds of nutrients, about one-third of which would be protein, one-third fat, and one-third carbohydrates. At the price quoted, the nutrients would cost approximately 12 to 13 cents per pound. In addition, a liberal supply of calcium, phosphorus, other minerals and many vitamins are included "at no extra cost."

Another point that should not be forgotten is that the nutrients in milk have been *especially prepared by nature* for the animal during its first days of life. We should remember that it is an excellent food for all of us at any time. Where can we get as valuable a food any cheaper? One quart of milk gives us:

All the calcium needed each day
All the phosphorus needed each day
One-half of the protein needed each day
One-tenth of the iron needed each day

One-fourth of the calories needed each day
One-half of the vitamin A needed each day
One-third of the vitamin B needed each day
All of the riboflavin and nicotinic acid needed each day.

Because milk reinforces the diet with so many excellent food nutrients, it is the soundest foundation on which to build wholesome meals for the family. No diet can afford to omit milk.

The purpose of this publication is to furnish the housewife with information on ways to utilize more milk in the home, especially in the farm home where milk is readily available and an economical source of vitality and greater health for all the family.

The Handling of Milk in the Home

Cooling

The fact that milk is a fine food is recognized also by a great group of microorganisms which are always about us. The number that get into the milk will depend upon the care with which it is produced. If the fine flavor of milk is to be retained and the milk kept in a sweet condition, everything possible must be done to keep bacteria from growing. The best means of preventing growth is by cooling milk or cream to 50°F. or below as soon as possible after milking and then keeping it cold until used. The rate of bacterial growth increases rapidly as the holding temperature changes from 50° to 100°F.

Pasteurization

For some uses of milk or cream it is desirable to eliminate as far as possible all bacteria that may be in the milk before it is used. For this purpose we employ the process of pasteurization which consists of heating the milk to a

temperature of 145°F. and keeping the milk at that temperature for 30 minutes, after which it is cooled to the desired temperature.

This time and temperature cause but little decrease in the amount of cream that will rise and give the milk only a slight cooked flavor. As the temperature is increased, however, the amount of cream that will rise will decrease, and the intensity of the cooked flavor will increase.

The pasteurizing process can be carried out in the home by placing the container of milk in a container of water and then heating to the desired temperature. Maintain this temperature for thirty minutes by keeping the water about 2 degrees above that of the milk. Cooling should be carried out by placing the container in cold water and stirring the milk occasionally until cold. This process gives a milk which is nearly free from bacteria. Appealing flavors can be developed by the use of starters consisting of desirable organisms. It is like cultivating the garden to get rid of the germinating weed seeds before you plant the seed you want to grow. This method should be understood by housewives and put to use in the home.

Rennin (Rennet or Junket)

If the housewife desires to use the milk on hand without cooking, the enzyme rennin, which will coagulate milk with or without the addition of sweetening and flavor into a sweet curd or junket, is most useful. The enzyme rennin is obtained from the stomachs of calves and is known in commerce as rennet. It is found on the market in the liquid form as rennet extract and also in the dried form as rennet tablets and junket tablets. The relative amount of enzyme that these different forms contain is shown in the following table:

TABLE I.—*Approximate strengths of different sources of rennin enzyme.*

<i>Extract</i>	<i>Rennet tablet</i>	<i>Junket tablets</i>
2 teaspoonfuls (10 cubic centimeters)	1	10
30 drop (1 cubic centimeter)	0.1 (1/10)	1
1 teaspoonful (5 cubic centimeters)	0.5 (½)	5
½ teaspoonful (2.5 cubic centimeters)	0.25 (¼)	2.5

The action of rennin on the milk protein changes the calcium caseinate to paracasein. The presence of acid or heat or both increases the action and finally will contract the curd and expel the whey, leaving a curd mass. This action together with that of acid development from bacterial action is the foundation of cheese making. Cheese is the product of milk solids in various states of concentration. High-moisture cheese is soft, whereas the low-moisture cheeses are hard in character. Because of many opportunities for variety, cheese makes a very satisfactory product; furthermore, it concentrates milk into a food that can be stored for long periods of time, if so desired.

Sour Milk Cultures

The natural fermentation of clean fresh milk is that of lactic acid production. Usually when such milk is held at 70° to 75°F. for 16 to 24 hours a solid curd is formed which has a pleasing acid flavor. Pure cultures of the natural lactic-acid-producing organisms can be obtained from any reliable dairy

laboratory in either the liquid or powdered form. Such cultures as well as the natural culture can be kept by adding a small amount to a new lot of freshly pasteurized clean milk. The milk so treated is allowed to curdle and then kept in a cold place until it is either used or added to more milk which is to be kept as a starter for future use. The use of sour whole milk and sour skimmilk (cultured buttermilk) for drinking purposes is very common. The sour milk is prepared the same as for a starter and can be shaken in a jar or churned for a short time to produce a smooth body. It should then be kept cold until used.

Uses of Milk

Drinking

The use of whole or skimmilk, either alone or in combination with flavoring as a drink, is common in most homes. To encourage this use, great care should be taken to see that the milking process is clean and that the cows are fed strong-flavored feeds directly *after* milking instead of *before*. As the flavor is very important, the milk should be cooled as quickly as possible after milking or separating.

A satisfactory cooling method is to fill quart fruit jars with milk, close tightly, and place them in a cooling tank. The fact that only a small amount is in each container means that the milk will cool quickly. When cool, only one container at a time needs to be removed from the cooling tank. Care should be taken not to keep milk where it will get warm. Always keep milk cold.

Cooking

Milk is used extensively in recipes. Such use of milk may be regarded as a means of getting milk constituents into the diet as well as making fine-flavored food. Milk can be used as a base for many delicious and economical foods when combined with other products and cooked.



The use of milk in cooking is a desirable practice.

Frozen Milk Products

The use of milk, skimmilk, and cream in the preparation of frozen milk products is well-known and used by many housewives. It is an excellent way to get more of the important food constituents found in milk into the daily diet. Sherbets, ice cream, and parfaits are delightful dainties that can be easily and economically prepared in the farm home from milk and other farm products available.

The freezing process, where mechanical refrigerators are available, is a simple process. Recipes are often furnished by the manufacturer and others are found in many cook books. The limiting factor when this method is used is the volume that can be made at any one time.

Many homes have the conventional can type of freezer, using ice and salt, in one-half, one, or two gallon size. This equipment offers an opportunity for the housewife to make larger quantities of frozen products and if the mechanical refrigerator is available, small amounts may be stored in the freezing compartment for later use.

Typical recipes in which other flavoring materials may be substituted are given here for making one gallon of finished product.

Sherbet (Lemon)

- | | |
|--------------------------------------|---|
| 2½ quarts of milk (skim may be used) | Juice of 1 dozen lemons |
| 2 lbs. sugar (or sugar substitutes)* | 1½ tablespoonfuls of gelatin dissolved in |
| 2 egg whites | ½ cup boiling water |

Mix milk, sugar and dissolved gelatin and keep in cold place overnight. When partly frozen add strained lemon juice and beaten egg whites.

Ice Cream (Vanilla)

- | | |
|---|---------------------------------------|
| 2½ quarts of thin cream | ½ cup boiling water |
| 3 cups sugar (or sugar substitutes) | Vanilla extract or other flavoring to |
| 1 large can evaporated milk | taste. |
| 1½ tablespoonfuls of gelatin dissolved in | |

Mix ingredients and freeze.

Ice Milk (Peanut)

- | | |
|-------------------------------------|----------------------------------|
| 3 quarts milk (cream may be added) | ¼ pound peanut butter |
| 3 cups sugar (or sugar substitutes) | 1 teaspoonful of vanilla extract |
| 4 eggs | ⅓ cup of flour |

Mix sugar and flour dry. Beat eggs. Heat 2 quarts of the milk in double boiler. When hot stir in sugar and flour, eggs and peanut butter. Cook 20 minutes, cool and add vanilla; then freeze immediately.

Junket Ice Milk (Caramel)

- | | |
|-------------------------------------|----------------------------------|
| 3 quarts of milk | ¼ cup caramel syrup |
| 3 cups sugar (or sugar substitutes) | 1 teaspoonful of vanilla extract |
| 2 Junket tablets | |

Dissolve the Junket tablets in ½ cup cold water. Add sugar to milk and heat lukewarm. Add dissolved tablets and caramel syrup. After standing overnight the milk will thicken. Add vanilla and freeze.

* "Sugar Savers," CC 46, which gives exact amounts of sugar substitutes required to replace one cup of sugar, is available at the University of Nebraska College of Agriculture Extension Service, Lincoln, Nebraska.

Parfait (Custard)

2¼ quarts thin cream
1½ cups sugar (or sugar substitutes)

8 eggs
1 teaspoonful of vanilla extract

Beat the egg yolks until smooth, add sugar and beat again until it is dissolved. Beat whites until stiff and stir into yolks and sugar. Mix all with cream or a part of it and cook for 15 minutes until thick. Cool, add flavoring, and freeze.

The housewife may have to substitute white corn syrup, honey, or maple syrup for sugar as conditions necessitate. The exact mixtures will depend upon material available.



Milk in frozen products is relished by the children.

Cream

Cream is used extensively in the preparation of foods. Cream in the sweet form may be used as desired but in order to insure fine flavor it should be separated from clean fresh milk in a clean separator and cooled at once and kept cold.

Sour cream is often used in making dressings and as an ingredient in baking and cooking. A fine flavored sour cream can be prepared by pasteurizing the desired amount of sweet cream by heating to a temperature of 155° to 160°F. and holding it at that temperature for 30 minutes. Cool the cream to approximately 75° and add five teaspoonfuls of starter to each pint of cream, mix well, and keep at 70° to 80°F. for 24 hours. After this period of time it is ready to use but the body will be heavier if it is placed in the refrigerator for awhile.

Butter

The need of butter in the farm home is appreciated by every housewife. The utilization of butterfat in the form of butter provides an economical as well as essential source of food for the whole family.

The usual experience of the housewife is that home-made butter does not retain its desirable, fine flavor when it is kept. The churning of butter from sweet pasteurized cream will practically eliminate this problem. Butter made as outlined below can be kept for several months with satisfactory results. This often makes it possible to make butter during the spring flush and hold it for use during the fall shortage. Such butter can be held in cold storage lockers for longer periods.

Making Butter for Storage

Select fresh sweet cream, sweet as you would use in your coffee, pasteurize it at 145° to 150°F. and hold for 30 minutes, cool with cold water, and place in a cold place overnight. Place the cream in a well scalded churn and churn until the butter granules are the size of wheat. Adjust the temperature of the cream (usually between 50 and 60 degrees) so that churning will take about 30 minutes.

Drain the buttermilk and wash twice with cold water in amounts equal to the volume of buttermilk.



Butter making is a simple process and produces a fine product.

The butter should still be in granular form which can be easily removed from the churn. Place granules on a piece of parchment paper or in a well-scalded cooled bowl. Estimate the amount of butter and add one level teaspoonful of salt per pound. Sprinkle it over the granules and work until no grains of salt can be tasted in the butter.

Working can be carried out either by placing a piece of wet parchment paper over the hand, and using that as a paddle, or in the same manner, the paper can be used over any utensil that is available and be employed for the same purpose.

Keep the butter cool so that it will not become greasy as butter should have a waxy body. Roll the butter into pound rolls or larger if desired and place them in a stone crock of suitable size. Keep the butter submerged in strong salt brine until it is used. If a supply is being stored, the new make should be marked and added to the supply in the crock. Store the crock in a cool place and when full of butter, see that all rolls are well covered with brine. Add some extra salt for good measure and cover to keep out dust and dirt. The butter will keep well and is available for use at any time. As butter is removed it may be necessary to add more salt and enough water to keep the butter covered.

Buttermaking is not difficult, and if a satisfactory product is produced it is a source of vital food elements for the farm family. Make butter and use it freely.

The buttermilk from this type of butter will be sweet and can be used in cooking or for any other purpose where sweet skim milk would be used.

Cheese Making

The origin of cheese dates back so far that it cannot be said with assurance who first discovered it. Before the time of Christ, however, cheese was so important in the dietary that it constituted one means of reckoning wealth among the wandering tribes of Asia and southern Europe. The boy David of Bible times is spoken of as carrying cheese to the captain. The Bible often mentions cheese as a food used by the Hebrew patriarchs and prophets, and it was honored at the feasts of the Roman Emperors.

Wandering Asiatic tribes brought the art of cheesemaking to Europe and there, later, it became one of the most important industries. Because of favorable conditions, the industry developed rapidly in various sections of Europe, and these in the course of time gave their names to the different varieties.

At the time the first immigrants came to America, cheesemaking was rather generally known in Europe. English immigrants carried English practices across the Atlantic. The similarity between climatic conditions in parts of this country and certain parts of England has influenced the manufacture in America of English types of cheeses. The term "cheddar," for example, comes from the name of the town of Cheddar in Somersetshire in England. This is but one of many instances that record the stimulation of cheese manufacture by the English.

In Nebraska, the 1860 records show that cheddar cheese was made and sold in the southeast section of the state. No doubt many households made this type of cheese when milk was available. The great variation of cheese production in Nebraska throughout the years indicates that much cheese is brought into the state for consumption from other cheese-producing states. The most economical place to make cheese, however, is on the farm where the milk is produced.

In the early days of cheese making, the cheese was made on the farms by the housewife. The methods were crude, the processes simple, and the cheese

was made in a more or less haphazard way. The type of cheese made was dependent upon the kind of cheese desired and the knowledge of the individual making it.

The nationality of the people and the taste for certain types of flavors have been responsible for the development of numerous kinds of cheese. Although a great many are made from whole milk, part skimmed, or skimmed milk, whey is used in some cases.

The varieties of cheeses fall into three classes, namely, hard cheeses, semi-soft cheeses, and soft cheeses. There are about 18 distinct varieties even though we find approximately 400 names. Many of these have arisen locally and have been named after towns or communities. The kinds are too numerous to mention, but a few of the more widely used varieties are:

<i>Hard</i>	<i>Semi-Soft</i>	<i>Soft</i>
Parmesan (Italian)	Brick	Cottage
Caciocavallo (Italian)	Limburg (Belgium)	Coulommier (French)
Sapsago (Switzerland)	Gorgonzola (Italian)	Cream
Cheddar (American)	Brie (French)	Neufchatel (French)
Emmenthaler (Swiss)	La Trappe (Canadian)	Camembert (French)
Primost (Norwegian)	Roquefort (French) or Blue	
Edam (Dutch)	Veined Cheese	
Stilton (English)		

The housewife in selecting the type of cheese to be made in the home should consider the amount and kind of milk available, equipment and storage facilities, and the time when the cheese is to be used. After the type of cheese to be made has been decided upon, directions should be followed if satisfactory results are to be obtained.

Soft Cheeses

The soft cheeses are coming more and more into common use. In addition to their rich flavor and high nutritive value, they may be used with other foods to form many appetizing dishes. The life of soft cheese is so short, however, that it is necessary to make them often. Because they are so perishable, they must be kept cool. The method of making cottage, Neufchatel, and other soft cheeses is relatively simple, and the equipment needed for making them in small quantities is not elaborate; therefore, an excellent opportunity is offered to produce at low cost a fresh, wholesome, and attractive food for home use from surplus skim or whole milk.

Cottage Cheese

The first step in making this type of cheese is to sour or ripen the skim-milk. If care has been used in the production and handling of milk, a good grade of cheese may be made by allowing the milk to sour naturally. Milk may be pasteurized and starter added if it is desired.

For this purpose, pour milk in a pan and allow to remain in a clean, warm place at a temperature of 75°F. In about thirty hours the milk will clabber and should have a clean, sour, and pleasant flavor. When firmly clabbered it should be cut into pieces one inch square and then stirred gently. The curd is now ready to be heated, which helps the curd to expel the whey and aids in giving the cheese a firm texture. The curd is raised to a temperature

of 100°F. and held at this temperature for 30 minutes. It is best to place the pan of broken curd in a vessel of hot water so as to control the temperature. The curd should be stirred frequently.

At the conclusion of the heating, pour the curd and whey into a small cheesecloth bag and move about freely so as to drain. The draining is stopped when the whey ceases to flow in a steady stream. The curd is then emptied from the bag and worked with a spoon until it becomes fine in grain. The addition of sour or sweet cream makes the texture smoother, improves the flavor, and makes the cheese more palatable. Salt is then added according to taste.

Neufchatel Cheese

This cheese is made from whole milk. When cheese is made from milk to which cream is added, so as to increase the fat content, it is called cream cheese. Neufchatel or cream cheese requires about the same equipment as cottage cheese. The quality of milk is very important. Milk which is sour or has undergone any abnormal fermentation should not be used. Using fresh, unripened milk, without any change in acidity, makes it possible to control the normal fermentations which are necessary for cheeses of high quality.

Scald 3½ gallons of milk for three-fourths hour. Cool to 75°F. Add three-fourths cup of good-flavored sour milk and mix it thoroughly into the milk. Then add rennet solution made from one-eighth junket tablet dissolved in four tablespoonfuls of cold water or its equivalent. Hold the milk at 78°F. to coagulate. In about 15 to 18 hours, about one-half inch of whey collects upon the surface of the curd. After the setting period, pour the curd upon a drain cloth and leave undisturbed for 3 to 4 hours or even longer, after which it should be worked toward the center of the cloth in order to hasten the draining. When cooled, the bag of curd is placed between two boards and a weight of about 10 to 20 pounds placed on top and left overnight. Frequent rearrangement of the bag will hasten the process.



Soft cheese making can be carried out in any kitchen.

After having been properly pressed, the curd is salted and then mixed. About two teaspoonfuls of salt are used for the curd from *one gallon of milk*. The curd is placed in a crock or porcelain dish and held at a temperature near 50°F. Under favorable conditions it will keep in good condition for several days. It is most palatable immediately after it is made.

Variations.—Finely chopped pimientos, olives, or nuts may be mixed with Neufchatel cheese at the time of salting, a variation that is very good in sandwiches and in salads.

Coulommier Cheese

Coulommier cheese is easily made and can be ripened for a short time if more flavor is desired or it can be eaten at once.

Place one gallon of fresh, clean milk in a container and adjust the temperature to about 86°F. Add a $\frac{1}{2}$ pint of starter or good flavored sour milk and 8 to 10 drops of rennet extract (or $\frac{1}{3}$ to $\frac{1}{2}$ a junket tablet dissolved in $\frac{1}{4}$ cup of cold water). Stir thoroughly and allow to stand in a warm place until curdled, usually about one hour.

After it is curdled, dip into a mold made by cutting both ends out of three or four No. 2½ tin cans. Holes should be drilled in the sides to allow rapid draining. The burr should be removed with a file after holes are made. Place hoops on screen or open material covered with a folded cloth to aid draining. As the curd is dipped a small amount of salt can be added or salt can be rubbed on the outside of drained cheese.

Fill the cans with curd and leave undisturbed in a warm room to drain. As soon as curd has settled to $\frac{1}{4}$ the height, place a folded cheesecloth over top and invert very quickly. After 12 hours the cheese should be firm enough to stand without the hoop. If salt was not added to the curd, sprinkle with salt and store in cool place until used.

Semi-Soft Cheeses

Limburg Cheese

Limburg cheese is a semi-soft type with a characteristic flavor found in no other cheese. It originated in Belgium and is used extensively in that country and in Germany. The process is simple and the cheese ripens well in about 6 weeks.

To make this cheese, about 5 quarts (10 pounds) of fresh morning's milk (milk that has been held overnight is not satisfactory) should be set at 86° to 90°F. with 30 drops of rennet extract (or 1/10 rennet tablet or one junket tablet) dissolved in one-half pint of cold water.

The curd should be hard enough for cutting in about 30 minutes. Cut the curd into cubes by the use of a long-bladed knife or wire rack. Allow to stand with slow stirring about 15 minutes and then heat to about 95°F. About three-fourths of an hour after cutting, the curd should be ready to dip into the molds. A wooden box 6 inches square and 10 inches high without top or bottom will do. The box is placed on several thicknesses of cloth or clean burlap and the curd dipped into it. (Slots $\frac{1}{4}$ -inch deep on the inside running from top to bottom will aid the draining process.) After the curd has drained for 20 to 30 minutes another folded cloth or burlap is placed over

the top and the mold and cheese quickly inverted and allowed to drain. Usually three or four turnings during the day will be satisfactory. The next morning the mold is removed, the cheese rubbed with dry salt and covered with a jar. It is salted again the second and third mornings and kept at a temperature of 60° to 65°F. where the atmosphere is very moist. In the home this can be obtained by keeping the cheese covered with a jar. If the surface becomes dry, wash the cheese with water containing a little salt. Keep in this condition for about six weeks, when it is ready to eat. After about three weeks the cheese can be wrapped in parchment paper if desired. The last stages of curing can be delayed somewhat by placing the cheese in a cold place.

The well-ripened cheese is almost liquid and creamy in consistency and has a slime on the outside that is very strong in odor.

Brick Cheese

Brick cheese is a variety that originated in America and is made much like Limburg but is a little drier and slower in curing.

The mixed night and morning milk may be used for this cheese if the night's milk has been properly cooled. Warm 10 quarts to 86°F., add $\frac{1}{4}$ pint of starter, and set with 30 drops of rennet extract (or $\frac{1}{10}$ of a rennet tablet or one junket tablet) dissolved in $\frac{1}{2}$ pint of cold water. In 30 minutes the curd should be hard enough to cut. Stir for 15 minutes and then heat slowly to between 110° and 120°F. in about 30 minutes. Approximately one hour after cutting, dip curd into wooden hoop as used for Limburg. Salt and cure the same as Limburg. In about eight weeks the cheese will be properly cured and is just on the border line between soft and hard cheese.

Hard Cheeses

Cheddar Cheese

Cheddar cheese is a whole-milk cheese that originated in the town of Cheddar in England. As a type it is the most common cheese of the English speaking people. It is medium hard and can be kept and ripened for long periods of time if it is so desired. Complete directions are available in Extension Circular 9936, 1940, obtainable from your Extension Agent.

Italian Cheese (Hard Grating)

This type of cheese can be kept for many months or even years and is typical of a large group of cheeses that are particularly fine for grating. Many of the Italian cheeses come in this group, and may be made of partly skimmed milk if so desired by following these directions.

Raise the temperature of five quarts of fresh milk to 86°F. and add one teaspoonful of rennet extract (or $\frac{1}{2}$ rennet tablet or 5 junket tablets) dissolved in a half pint of cold water. Allow the milk to stand in a warm place until the curd is quite firm, which should take from 40 to 50 minutes. The curd may be cut with a long knife or broken up with the hands and the mass heated, a half or three-quarters of an hour, until the whey is as hot as the hand can stand. At this time gather the curd with the hands and mat together until firm.

Remove the curd from the whey and place in hoop made by cutting both

ends out of a near-gallon can or similar container. Press the curd until it shapes well in the hoop. Then reverse and repeat the process until the cheese is firm and smooth on the surface. Place the curd and hoop back in the whey and heat until just below boiling point but do not boil. Allow to stand in whey until cool. (See Ricotta Cheese).

Under conditions where hoops are not available, the curd is worked into a round ball and hung in rope or straw strand baskets, usually in pairs. In this way they are hung on a nail or peg and treated as described above. The cheese may also be smoked to give additional flavor. It is a very satisfactory method of storing milk in the form of cheese where facilities are very limited.

If it is so desired, the cheese can be eaten before it is given the curing process, at which time it will lack flavor and will be lacking in hardness.

Whey Cheeses

Whey is always a by-product of the cheese making process. In order to conserve valuable milk constituents and vitamins, the people of certain countries have made a practice of utilizing whey either in combination or alone by making whey cheese.

Ricotta (Italian Whey Cheese)

Ricotta is a type of soft cheese that can be eaten fresh and can be satisfactorily made from the whey when one is making hard cheese of the grating or Italian type (page 19). If this is the case, before the curd in the hoop is replaced in the whey, the whey is heated until a coat of fat rises to the top. At this time add one quart of whole milk to the whey from five quarts of milk. Stir and then heat to nearly boiling but do not boil. When the curd rises to the top and tends to draw away from the sides of the container, add about one-fourth cup of strong vinegar and stir well. The curd will soon rise to the top, after which it should be skimmed off and drained in a cloth or hoop. Salt may be added to taste and the cheese eaten at once, if desired.

As soon as the curd is skimmed the hoop containing the hard cheese should be replaced in the whey and allowed to cool.

Primost

In Norway and some other countries, whey left from cheese making is boiled down until it will solidify upon cooling. This is a good food and relished by many people, especially for flavoring soups and stews.

When buttermilk or skimmilk is added to the whey the product is called mysost. The product can easily be made by boiling down the whey from any type of cheese. Continue the process until the mass has the consistency of thin mortar, or heavy paste, at which time it is transferred to a container to cool. It may be cut into blocks and wrapped in paper for storage.

Conclusion

The material presented herein is brief, but further details can be found in various publications available through your experiment station. It is hoped that this publication will awaken the interest of both city and farm housewives to the great possibilities of using milk and milk products in the daily diet.

The farm housewife, in particular, should utilize available supplies of milk. Better health and more economic diets are important war measures.

A Useful List of Available Circulars and Leaflets from the College of Agriculture, University of Nebraska, Lincoln.

Extension Circulars

- 5 Disinfection and Disinfectants.
- 610 Standard Practice in Producing Milk and Cream.
- 9934 Cheese Making in the Home.
- 9935 Making Soft Cheese in the Home.
- 9936 Making Cheddar Cheese in the Home.
- 9937 Use of Cheese in the Diet.
- Food Supplement No. 2 Milk Drinks.

*Experiment Station Circulars*¹

- 54 Judging Quality in Dairy Products.
- 65 Cooling, Storage and Transportation of Milk and Cream.

U. S. D. A. Publications

- 602 Production of Clean Milk.
- 876 Making Butter on the Farm.
- 976 Cooling Milk and Cream on the Farm.
- 1315 Cleaning Milking Machines.
- 1451 Making and Using Cottage Cheese.
- L177 Pasteurizing Milk.
- 1705 Milk for the Family
- 1734 Making American Cheese on Farm.
- L49 Ice Cream Frozen Without Stirring.
- L213 Sour Cream and How to Prepare It.
- L9 Making and Storing Farm Butter for Winter Use.

¹ Can be sent only to Nebraska residents.